

1 **II. ELECTION/RESTRICTIONS**

2 At page 2 of the Detailed Action the Examiner requires Restriction to one of the
3 following inventions under 35 USC 121:

4 1. Claims 1-17, drawn to a mixing chamber having a rotatable agitator, classified
5 in class 366, subclass 305.

6 2. Claims 18-20, drawn to a method of treating seed, classified in class 427,
7 subclass 4.

8 At paragraph 2 the Examiner states "Inventions 1 and 2 are related as process and
9 apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the
10 process as claimed can be practiced by another materially different apparatus or by hand,
11 or (2) the apparatus as claimed can be used to practice another and materially different
12 process. (MPEP 806.05(e)). In this case the apparatus could be used to mixer material
13 other than seed, such as coal particles."

14 At paragraph 3 and 4 the Examiner states "Because these inventions are distinct
15 for the reasons given above and have acquired a separate status in the art as shown by
16 their different classification, restriction for examination purposes as indicated is proper."
17 And "Because these inventions are distinct for the reasons given above and the search
18 required for Group I is not required for Group II, restriction for examination purposes as
19 indicated is proper."

20 Election: The provisional election with traverse to Group I and claims 1-17 is
21 affirmed.

22 Traverse: Your applicant has amended Claim 18 as follows:

23 18. (Currently amended) A method of treating seeds utilizing the apparatus of
24 claim 13 comprising:
25 adapt[ed]ing the apparatus for use in an elevator which includes a building with
an elevated floor having a supply opening therethrough and a space below the

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1 floor for accommodating vehicles for receiving the seeds, compromising;
2 providing seeds to be ~~mixed~~ treated on the elevated floor,
3 providing a self-contained ~~mixing~~ treating unit having a top opening and a
4 bottom opening for flow of seeds therethrough and through the ~~mixing~~ treating
5 unit, and ~~mixing~~ treating the seeds as the seeds flow through the ~~mixing~~ treating
6 unit.

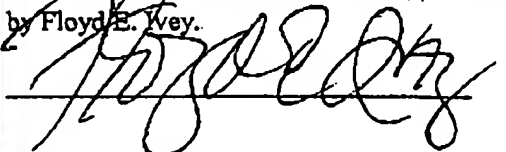
7 Additionally claims 18, 19 and 20 have been amended to eliminate reference to
8 "mixing". As is appreciated from the Specification and Claims, the apparatus of claim 13
9 "treats" particles which are denominated "seeds" in this application and in these claims.
10 As is seen in the Specification and Claims, the particles or "seeds" are coated with a fluid.

11 Your applicant respectfully notes that the preamble of a claim only limits the
12 claimed invention if it "recites essential structure or steps, or if it is necessary to give life,
13 meaning, and vitality to the claim." *NTP, Inc. v. Research In Motion, Ltd.* 418 F.3d
14 1282, 1305-06 (C.A.Fed. Va. 2005); *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*,
15 289 F.3d 801, 808 (Fed.Cir.2002). Thus, the preamble must help to determine the scope
16 of the patent claim to be construed as part of the claimed invention. *Bell Communications*
17 *Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620 (Fed.Cir.1995).
18 Your applicant respectfully contends that the word "seed" in the preamble is not
19 structural and does not limit the claimed invention. Thus any particle to be coated by the
20 structure of claim 13 and the claims from which it depends which necessarily must
21 include the spreader (90) of this invention.

22 Hence your applicant respectfully contends that neither of the conditions of MPEP
23 806.05(e) are met, in light of the amendments, and your applicant requests the Examiner
24 to withdraw the restriction and to allow claims 18-20 to be examined in this application.

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1 **V. CLAIM OBJECTIONS**

2 1. At page 4, paragraph 11, the Examiner states "In claim 1, the period at the end
3 of line 14 should be a comma. Claim 1 has been so amended. The Examiner is requested
4 to withdraw the objection and to allow the claim.

5 2. At page 4, paragraph 12 the Examiner states "The word "surface" should be
6 deleted in line 20 of claim 1 to improve clarity. Claim 1 has been amended. The
7 Examiner is requested to withdraw the objection.

8 3. At page 4, paragraph 13 the Examiner states "In claim 4, line 7, "plated"
9 should apparently read "plates". Claim 4 has been so amended. The Examiner is
10 requested to withdraw the objection and to allow the claim.

11 4. At page 4, paragraph 14 the Examiner states "In claim 16, line 1,
12 "compromising" should read -comprising-. The amendment has been made. The
13 Examiner is requested to withdraw the objection and to allow the claim.

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VI. AMENDMENTS TO THE CLAIMS

1. (Currently amended) A self-contained seed treater comprising,

a drum having a surrounding wall and a top opening and a ~~bottom opening~~ central discharge opening (56),

a rotatable shaft mounted in the drum on a vertical axis,

a spreader mounted on the shaft adjacent the top of the drum, and adapted to receive seed flowing downwardly through the top opening, and operable for throwing the seed outwardly into engagement with the surrounding wall, the spreader (90) having a bottom (92) which is of conical shape.

an upper bowl below the spreader, and tapering downwardly and having a bottom opening, and being otherwise imperforate and secured to the surrounding wall without space between itself and the surrounding wall,

whereby all the seed on the surrounding wall thrown from the spreader will flow into the upper bowl[.]__

the construction of the seed treater being such as to enable the seed in the upper bowl to flow through the bottom opening in the upper bowl and through the ~~bottom opening~~ central discharge opening (56) of the seed treater into a receptacle, and

the seed treater including power transmitting means operably connecting power means for rotating the shaft (68) surface.

2. (Currently amended) A seed treater according too claim 1 wherein,

the drum has a top closure plate (48) cover in which the top opening is formed,

and

the drum includes a flange unit on the top closure plate (48) cover having a

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1 central opening co-axial with the top opening of the drum and a flange element spaced
2 axially from the top closure plate (48) cover and extending transversely of the axis, for
3 detachably securing[it] the drum (44) to an overhead supporting structure, and
4 a downwardly directed cone shaped conical bottom closure plate (54), with a
5 central discharge opening (56) forming the bottom opening and forming a bottom bowl,
6 the bottom closure plate (54) secured to the surrounding wall, the bottom bowl coaxially
7 positioned with the drum and surrounding imperforate element positioned for receiving
8 the grain falling through the drum.

9
10 3. (Currently amended) A seed treater according to claim 1 and including,
11 the spreader (90) bottom plate (92) having vertical blades (94) opening radially
12 outwardly following the downward slope of the bottom plate (92),
13 upper and lower first bearing means for supporting the shaft,
14 bearing supporting second means supporting the bearing means within the drum,
15 and
16 the bearing second supporting means being operable for detachably mounting the
17 second bearing supporting means on the surrounding wall.

18
19 4. (Currently amended) A seed treater according to claim [1] 3, wherein,
20 the drum is cylindrical and the bearing supporting means includes upper and
21 lower bearing support means includ[es] ing [an] upper a protected upper bearing
22 support between the spreader and the upper bowl,
23 the upper bearing support extends diametrically across the drum and includes
24 spaced apart side bars positioned vertically on edge, and having end plated- plates also

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1 positioned on edge by which the upper bearing support is detachably secured to the
2 surrounding wall,

3 the upper bearing support also including a central horizontal plate secured to the
4 side bars, and

5 the upper bearing means is detachably and fixedly mounted on the plate,

6 whereby relatively great space is provided outwardly of the side bars, and between
7 the side bars radially outwardly beyond the central horizontal plate to enable the seed to
8 flow freely downwardly through the drum.

9
10 5. (Currently amended) A seed treater according to Claim 4 wherein,

11 the upper bearing support includes holes in curved end plates (80) its structures
12 for receiving the outlet ends of the fluid flow hoses tubes (84) from the exterior leading
13 to a position adjacent the shaft for conducting fluid into the drum to a position adjacent
14 the shaft.

15
16 6. (Currently amended) A seed treater according to claim 1 and including a rotary
17 applicator between the spreader and the upper bowl,

18 the applicator (100) has a central hub (102) secured to the shaft, and a bottom
19 plate (101) with vertical radial blades (106); the applicator (100) is of lesser depth than
20 the spreader (90), and

21 is mounted on the shaft and rotatable therewith and positioned for receiving fluid
22 from the terminal ends of the fluid flow hoses tubes (84), and operable for throwing fluid
23 that is placed thereon outwardly into engagement with the falling seed kernels on the wall
24 of the drum.

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1 7. (Currently amended) A seed treater according to claim 5 and including
2 a rotary applicator mounted on the shaft and rotatable therewith,
3 and the rotary applicator is positioned between the upper bearing support and the
4 upper bowl, and thereby positioned below the fluid flow tubes (84) ~~line outlets~~ for
5 receiving thereon fluid introduced into the drum.

6
7 8. (Currently amended) A seed treater according to claim 7 wherein,
8 at least one upper coater (112), is smaller in diameter than the spreader (90) and
9 has a central hub 114 by which the upper coater (112), is mounted on the shaft 68, for
10 rotation therewith; the upper coater (112) having bottom plates (116) of conical shape,
11 and vertical- radial blades (118) opening radially outwardly; the upper coater (112) is
12 mounted below the upper bowl (104);

13 the upper bowl (104) fixedly mounted in the drum (44);

14 at least one central bowl (120) fixedly mounted in the drum (44) below at least
15 one upper coater (112), and tapering downwardly and having a bottom opening, and being
16 otherwise imperforate and secured to the surrounding wall without space between itself
17 and the surrounding wall, the at least one central bowl (120) receives the mixture from
18 the wall 46, in the area radially outwardly from the upper coater 112 and the mixture
19 then flows through this central bowl and down through its bottom opening 122;

20 at least one lower coater (124), is smaller in diameter than the spreader (90) and
21 has a central hub which the lower coater (124), is mounted on the shaft (68), for rotation
22 therewith; the lower coater (124) having bottom plates of conical shape, and vertical-
23 radial blades opening radially outwardly; the lower coater (124) is mounted below the at
24 least one central bowl (120);

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1 the at least one lower coater (124) mounted on the shaft (68) above the hogback
2 (76);

3 below the hogback (76) a conical bottom closure plate (54), with a central
4 discharge opening (56), forming a bottom bowl (54); and

5 at least one pair of wipers (128, 129, 130) are in wiping contact with each of the
6 said upper bowl (104), the at least one central bowl (120) and the bottom bowl (54); each
7 pair of wipers at each of the upper bowl (104), the at least one central bowl (120) and the
8 bottom bowl (54) are mutually identical, and arranged symmetrically, on a common
9 diameter, each of the at least one pair of wipers (128, 129, 130) are secured to the shaft
10 (68) or the upper coater (112) for rotation with the rotation of the shaft (68);

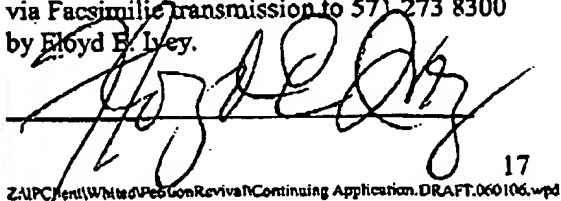
11 the wipers in the different pairs for the upper bowl (104), the at least one central
12 bowl (120) and the bottom bowl (54) differ in size and shape to accommodate the shape
13 of the respective upper bowl (104), the at least one central bowl (120) and the bottom
14 bowl (54);

15 for each wiper pair, each wiper (128, 129, 130) includes a mounting piece (132,
16 142, 146) and a blade (133) extending down into the respective upper bowl (104), at least
17 one central bowl (120) and bottom bowl (54); the blade (133) is positioned at the
18 periphery of each of the respective bowls (104, 120 and 54); the blade (133) having an
19 upper edge (135) which is inclined upwardly in radial outward direction to a point (136)
20 above a flange (110) of the each of the respective upper bowl and at least one central
21 bowl (104, 120) and to a point at the uppermost point of the bottom bowl (54) such that
22 the blade (133) engages the wall of the drum;

23 each blade (133) has a radial outer edge (138) which also engages the flange (136)
24 with wiping contact; a lower edge (139) of the blade (133) engages the wall of the

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1 respective bowl (104, 120, 54) down to a point (141) proximal the respective bowl
2 bottom or discharge opening (108, 122, 56); each of the respective blades (133) has a
3 lower/inner edge (142) which extends up to the mounting piece (132);

4 the blade (133) is made of relatively stiff yet flexible material (10) which will
5 yield upon engaging an obstacle;

6 the blades (133) are spaced apart, engaging the bowl only at the outer portion
7 thereof, and leaving an empty space therebetween.

8 the blades (133), in each pair, extend approximately threefourths of a slant height
9 of the sloped bottom of each of the respective bowls (104, 120, 54), from an upper edge
10 of the each of the respective bowls (104, 120, 54) leaving the lower one- fourth of the
11 slant height of each of the sloped bottoms of each of the respective bowls (104, 120, 54)
12 open;

13 the wipers (128, 129, 130), upon rotation with the shaft (68), wipe the respective
14 bowls (104, 120, 54) and wipe the mixture and work it inwardly so as to position the
15 mixture directly over the bottom or discharge opening (108, 122, 56) of each of the
16 respective bowls (104, 120, 54);

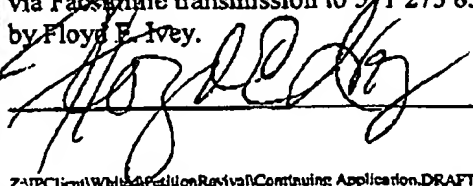
17 each of the spreader, applicator, and upper coater[s] and the at least one lower
18 coater, includes a bottom plate extending substantially its full area, and vertical blades
19 extending upwardly from bottom plate, and

20 the spreader (90) bottom plate (92) and blades (94) have a central opening (96),
21 for receiving the upper bearing 70;

22 the upper coater (112), is positioned close to the upper bowl (104), and as the
23 grain and fluid mixture flows down the upper bowl (104), it falls into the upper coater
24 (112), and is again thrown out against the surrounding wall (46), this action produces a

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1 mixing effect, which is added to that of the spreader (90), and upper bowl (104);

2 the at least one central bowl (120) receives the mixture from the wall (46), in the
3 area radially outwardly from the upper coater (112) and the mixture then flows through
4 the at least one central bowl (120) and down through its bottom opening (122);

5 the lower coater (124) is operable for throwing the mixture that falls into it from
6 the at least one central bowl (120), in outward direction against the surrounding wall (46).

7
8 9. (Currently amended) A seed treater according to claim [1] 3 and including,

9 an upper rotary coater below the upper bowl and secured to the shaft, and
10 positioned for receiving seed and fluid from the upper bowl and operable for throwing
11 seed and fluid outwardly against the wall of the drum, and

12 the upper coater (112), is smaller in diameter than the spreader (90) and has a
13 central hub 114 by which the upper coater (112) is mounted on the shaft 68 for rotation
14 therewith; the upper coater (112) having bottom plates (116) of conical shape, and
15 vertical-radial blades (118) opening radially outwardly.

16
17 10. (Currently amended) A seed treater according to claim 9 and including,

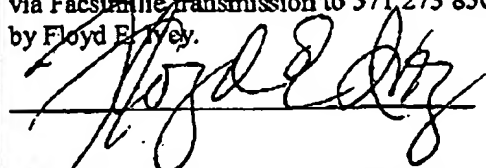
18 a center bowl substantially identical with the upper bowl below the upper coater,
19 and fixedly mounted in the drum substantially identically to the mounting of similarly to
20 the upper bowl.

21
22 11. (Currently amended) A seed treater according to claim 10 and including,

23 a lower rotary coater substantially identical with the upper rotary coater and
24 mounted below the lower central bowl and mounted substantially identically to the

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1 mounting of similarly to the upper rotary coater, and

2 the lower rotary coater (124), is smaller in diameter than the spreader (90) and has
3 a central hub 114 by which the lower rotary coater (124) is mounted on the shaft 68 for
4 rotation therewith; the lower coater (124) having bottom plates (116) of conical shape,
5 and vertical-radial blades (118) opening radially outwardly.

6
7 12. (Currently amended) A seed treater according to claim 11 and including,

8 a hogback adjacent to the lower end of the drum and below ~~all of the above~~
9 ~~instrumentalities and structures~~ the central bowl.

10 a conical bottom closure plate (54), with a central discharge opening (56), forming
11 a bottom bowl (54) below the hogback (76); and

12 the hogback being constituted by a rigid elongated piece extending diametrically
13 across the drum and secured at its ends to the surrounding wall includes a main structural
14 member 125, made up of a pair of plates 126, disposed at an angle to each other and is
15 disposed with the apex of the angle upwardly, and

16 lower bearing means mounted on and under the hogback and supporting the shaft.

17
18 13. (Currently amended) A seed treater according to claim 12 and including,

19 power means mounted on the exterior of the drum, and

20 power transmitting means operably connecting the power means and the shaft and
21 extending into the drum and underlying the hog back ~~throughout its extent~~ to the shaft;
22 the power transmitting means ~~and thereby shielded by the hogback from grain falling~~
23 ~~through the drum.~~

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1 14. (Cancelled)

2
3 15. (Original) A seed treater according to claim 1 and including,

4 in addition to the upper bowl,

5 a central bowl and a bottom bowl,

6 all concentric with the axis and through all of which the seed mixture flows, and

7 the seed treater includes rotary wipers secured to the shaft and extending into the

8 respective bowls, and operable in response to rotation of the shaft, for wiping the floor of
9 the bowls.

10
11 16. (Currently amended) Apparatus for treating seed, ~~comprising comprising~~,

12 a cylindrical drum having top and bottom openings, the bottom opening being the
13 central discharge opening (56);

14 the drum including means for mounting it on and below a floor in a building, and
15 adapted to receive grains of different characteristics through the top opening, for mixing
16 grains,

17 the drum including means therewithin for mixing the grains in response to the fall
18 of the grains through the drum,

19 a spreader mounted on the shaft adjacent the top of the drum, and adapted to
20 receive seed flowing downwardly through the top opening, and operable for throwing the
21 seed outwardly into engagement with the surrounding wall, the spreader (90) having a
22 bottom (92) having a conical shape.

23 the spreader (90) bottom plate (92) having vertical blades (94) opening radially
24 outwardly following the downward slope of the bottom plate (92).

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1 and the apparatus including power means mounted on the drum for operating the
2 mixing means.

3
4 17. (Currently amended) Apparatus according to claim 16 and including,

5 fluid flow means (84) conduit means leading from the exterior into the interior of
6 the drum for conducting liquid chemicals into the drum for mixing with the grains in the
7 drum.

8
9 18. (Currently amended) A method of treating seeds utilizing the apparatus of claim 13
10 comprising:

11 adapt[ed]ing the apparatus for use in an elevator which includes a building with
12 an elevated floor having a supply opening therethrough and a space below the floor for
13 accommodating vehicles for receiving the seeds, comprising:

14 providing seeds to be mixed treated on the elevated floor,

15 providing a self-contained mixing treating unit having a top opening and a
16 bottom opening for flow of seeds therethrough and through the mixing treating unit, and
17 mixing treating the seeds as the seeds flow through the mixing unit; the bottom opening
18 being the central discharge opening (56).

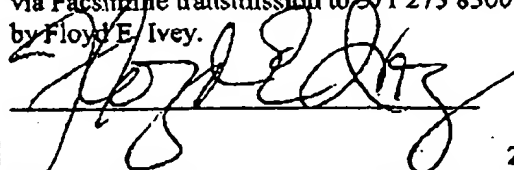
19
20 19. (Currently amended) A method according to Claim 18 and including the step,

21 introducing fluid into the mixing treating unit with the introduction of the seeds,
22 and mixing treating the seeds and with the fluid.

23
24 20. (Currently amended) A method according to Claim 19 for use in such elevator that

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